

Overall Lab Surveillance

Total Specimens Collected

- Collected in Week 44: 61
- Season Total: 189

Newly identified Influenza

Newly identified; Cumulative

- Influenza A: 1 ; 3
- Influenza B: 0 ; 1

Newly subtyped influenza

Newly identified; Cumulative

- Influenza A/H3N2: 1 ; 3
- Influenza B/HongKong: 0 ; 0
- Influenza B/Shanghai: 0 ; 0

Sentinel Site Lab Surveillance

Total Specimens Collected

- Collected in Week 44: 46
- Season Total: 136

Newly identified influenza

Newly identified; Cumulative

- Influenza A: 1 ; 3
- Influenza B: 0 ; 0

Newly subtyped influenza

Newly identified; Cumulative

- Influenza A/H3N2: 1 ; 3
- Influenza B/HongKong: 0 ; 0
- Influenza B/Shanghai: 0 ; 0

Research Lab Surveillance

Total Specimens Collected

- Collected in Week 44: 8
- Season Total: 18

Newly identified Influenza

Newly identified; Cumulative

- Influenza A: 0 ; 0
- Influenza B: 1 ; 1

Newly subtyped influenza

Newly identified; Cumulative

- Influenza A/H3N2: 0 ; 0
- Influenza B/HongKong: 0 ; 0
- Influenza B/Shanghai: 0 ; 0

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DoD Global Influenza Surveillance Program: *Influenza Surveillance at AFIOH*

Week 44

30 October - 05 November 2005

Background information and surveillance methods of the DoD Global Influenza Surveillance Program may be found on page 10 of this report.

Total Influenza Identified = Influenza A: 3 Influenza B: 1

Molecular Sequencing:

Influenza A/H3N2: 3

Geographical Spread of Influenza

Isolate Overview



Molecular Sequencing Overview



AFIOH Reporting Procedures

The information in this report describes:

- 1) **Overall Laboratory Surveillance** (i.e., all respiratory specimens submitted to and processed by the AFIOH laboratory);
- 2) **Influenza Identified** (i.e., information on identified influenza isolates)
- 3) **Sentinel Site Laboratory Surveillance** (i.e., respiratory specimens submitted by the sentinel sites using the protocol of selecting 6-10 influenza-like illness [ILI] specimens per week); and
- 4) **Overseas Research Laboratory Surveillance** (i.e., respiratory specimens submitted by two of the DoD overseas medical research laboratories [AFRIMS and NMRC-D] and the

Overall Laboratory Surveillance

Laboratory surveillance describes all specimens received by the AFIOH laboratory for respiratory testing at the time of this report (from sentinel sites, non-sentinel sites, and overseas laboratories).

Sites submitting specimens for respiratory testing

Week 45. 21 sites collected specimens during Week 44 (15 sentinel, 5 non-sentinel, and 1 overseas research site).

Season submission. Since 02 October 2005, a total of 27 sites have submitted specimens to the AFIOH laboratory. The majority of specimens (75%) were submitted by sentinel sites, 12% were from non-sentinel, and 13% were from an overseas research site (please see map to the right).



Overall Laboratory Results

Week 44 overview. 61 specimens were collected during Week 44 and received at the AFIOH laboratory at the time of this report. 77% (n=47) of the specimens have a completed result. Please view Table 1. and Graphs 1. & 2. for a visual overview.

Season overview. Since 02 October 2005, a total of 189 specimens were collected and 89% (n=169) have a completed result at this time. Of the specimens with completed results, 82% (n=138) were negative and 18% (n=31) were positive for a respiratory virus. Of the total specimens having a completed result, 2% were positive for influenza A.

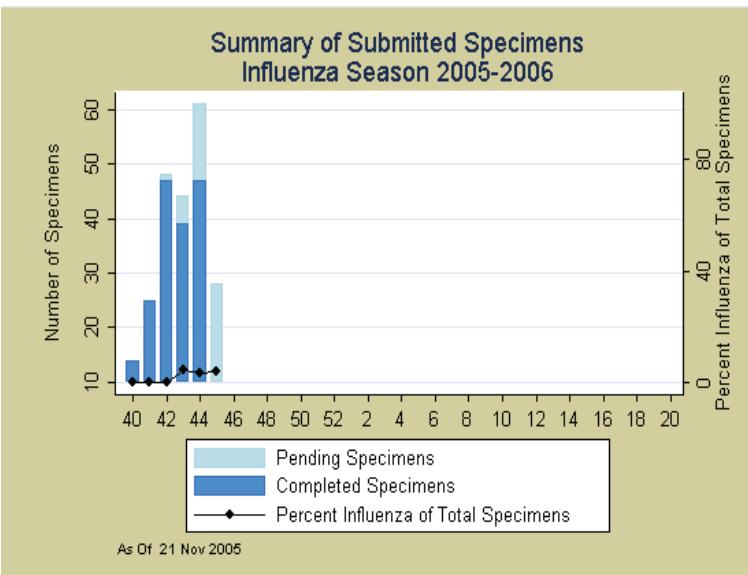
Of the specimens positive for a respiratory virus, 10% (n=3) were influenza A, 3% (n=1) was influenza B; 13% (n=4) were adenovirus, 42% (n=13) were parainfluenza, 22% (n=7) were enterovirus, and 10% (n=3) were HSV.

Subtyping. All 3 influenza A isolates were subtyped as influenza A/H3N2. The influenza B isolate is undergoing molecular characterization.

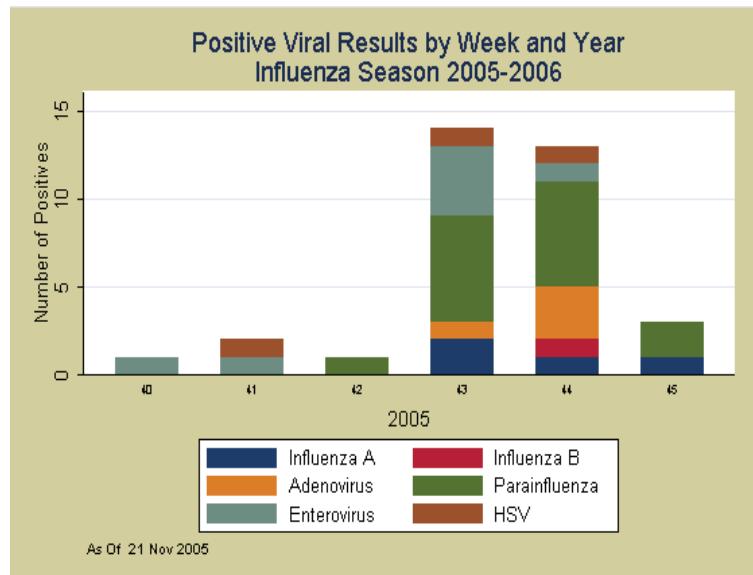
Table 1. Laboratory Results by Military Command, Current Week and Season Totals.

Result	MILITARY COMMAND											ALL SITES	
	CENTCOM		EUCOM		NORTHCOM		PACOM		OTHER				
	Wk 44	Season	Wk 44	Season	Wk 44	Season	Wk 44	Season	Wk 44	Season			
Influenza A					1	1			2			3	
Influenza B											1	1	
Adenovirus			1	2					2			4	
Parainfluenza			1	5	4	7					1	13	
Enterovirus			1	3		2			2			7	
HSV		1	1	1							1	3	
RSV												0	
Negative	1	8	7	15	11	59	1	42	2	14		138	
Pending	1	1	2	6	7	7	1	5	1	1		20	
TOTAL RECEIVED	2	10	13	32	23	76	2	53	3	18		189	

Graph 1.



Graph 2.



Influenza Identified: Demographic Data

Demographics for Positive Influenza Isolates

Demographics	Newly Identified		Cumulative (Season)	
	A	B	A	B
Age (years)				
0-5	0	0	0	0
6-19	1	0	1	0
20-64	0	0	2	0
65 +	0	0	0	0
Unknown	0	0	0	0
OVERALL TOTALS	1	0	3	0

Demographics	Newly Identified		Cumulative (Season)	
	A	B	A	B
Vaccination Status				
Injection	0	0	0	0
Nasal Spray (FluMist)	0	0	0	0
Not Vaccinated	1	0	2	0
Unknown	0	0	1	0
OVERALL TOTALS	1	0	3	0

Family Prefix Status	A		B	
	A	B	A	B
Military member/Sponsor	0	0	2	0
Spouse	0	0	0	0
Child	1	0	1	0
Other/Unknown	0	0	0	0
OVERALL TOTALS	1	0	3	0

Hospitalization Status	A		B	
	A	B	A	B
Hospitalized	0	0	0	0
Quarters	0	0	0	0
OVERALL TOTALS	0	0	0	0

*Describes sentinel site data only

Continued on page 4.

Demographics	Newly Identified		Cumulative (Season)	
	A	B	A	B
Sentinel Sites (by MAJCOM)				
CENTCOM				
Al Udeid AB, Qatar	0	0	0	0
Arifjan	0	0	0	0
Balad AB	0	0	0	0
Camp Buehring	0	0	0	0
Manas AB	0	0	0	0
AETC				
Maxwell AFB, AL	0	0	0	0
Sheppard AFB, TX	0	0	0	0
AMC				
Andrews AFB, MD	0	0	0	0
McGuire AFB/FT. Dix, NJ	0	0	0	0
Scott AFB, IL	0	0	0	0
Travis AFB, CA	0	0	0	0
USAFE				
Aviano AB, Italy	0	0	0	0
Incirlik AB, Turkey	0	0	0	0
RAF Lakenheath, UK	0	0	0	0
Ramstein AB, Germany	0	0	0	0
USAFA				
US Air Force Academy, CO	1	0	1	0
PACAF				
Andersen AFB, Guam	0	0	2	0
Elmendorf AFB, AK	0	0	0	0
Kadena AB, Japan	0	0	0	0
Kunsan AB, Korea	0	0	0	0
Misawa AB, Japan	0	0	0	0
Osan AB, Korea	0	0	0	0
Yokota AB, Japan	0	0	0	0
NAVY				
BMC Sasebo, Japan	0	0	0	0
NAB Little Creek, VA	0	0	0	0
NACC Groton, CT	0	0	0	0
NH Bethesda, MD	0	0	0	0
NH Bremerton, WA	0	0	0	0
NH Guam	0	0	0	0
NH Okinawa, Japan	0	0	0	0
NH Pearl Harbor/Hickham AFB, HI	0	0	0	0
NH Sigonella, Italy	0	0	0	0
NH Yokosuka, Japan	0	0	0	0
NMC San Diego, CA	0	0	0	0
ARMY				
Ft Drum, NY	0	0	0	0
Landstuhl RMC, Germany	0	0	0	0
Tripler AMC, HI	0	0	0	0
COAST GUARD				
Ketchikan, AK	0	0	0	0
OVERALL SENTINEL TOTALS	1	0	3	0

Sentinel Site Laboratory Surveillance

Thirty-nine sentinel sites are requested to collect 6-10 specimens each week from patients meeting the ILI case definition (**fever $\geq 100.5^{\circ}\text{F}$ and cough or sore throat**) and complete the "Influenza Surveillance Questionnaire". Two sentinel sites, Tripler Army Medical Center (AMC), located in Hawaii, and Landstuhl Regional Medical Center (RMC), located in Germany, send selected influenza positive specimens to AFIOH to be further characterized. These sites are major medical centers and have established laboratories capable of detecting influenza. Their involvement in the DoD-wide program is valued due to their mission and geographical location.



Sites submitting specimens for respiratory testing

Week 45. 6 sentinel sites collected specimens during Week 45 (see map to the right).

Season submission. Since 02 October 2005, a total of 21 sentinel sites have collectively submitted 147 specimens.

Sixty-five percent (n=95) of the specimens were collected from OCONUS sentinel sites and 35% (n=52) were from CONUS sentinel sites.



Sentinel Site Laboratory Results

Week 45 overview. 11 specimens were collected during Week 45 and received by the AFIOH laboratory. 36% (n=4) of the specimens have a completed result. Please view Table 2. and Graphs 3 & 4 below for a visual overview.

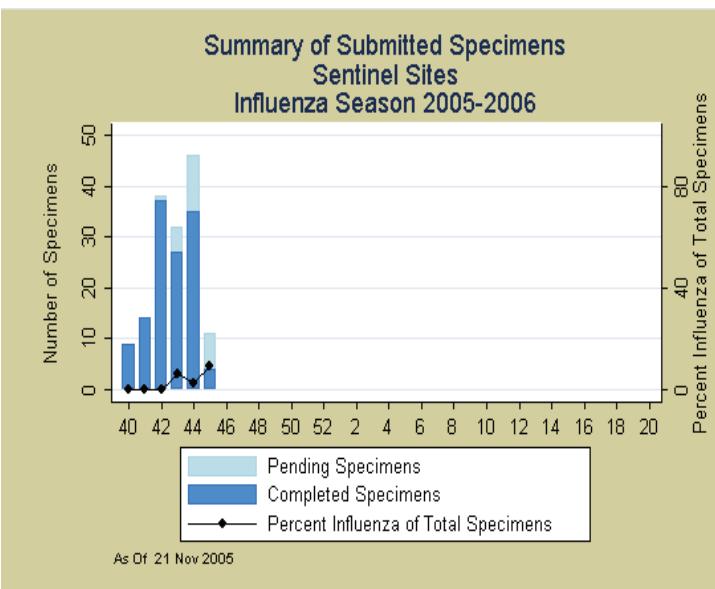
Season overview. Since 02 October 2005, a total of 147 specimens were collected and 84% (n=123) have a completed result at this time. Of the specimens with completed results, 80% (n=99) were negative and 20% (n=24) were positive for a respiratory virus. Of the total specimens having a completed result, 3% were positive for influenza A.

Subtyping: All 4 influenza A specimens were subtyped as influenza A/H3N2.

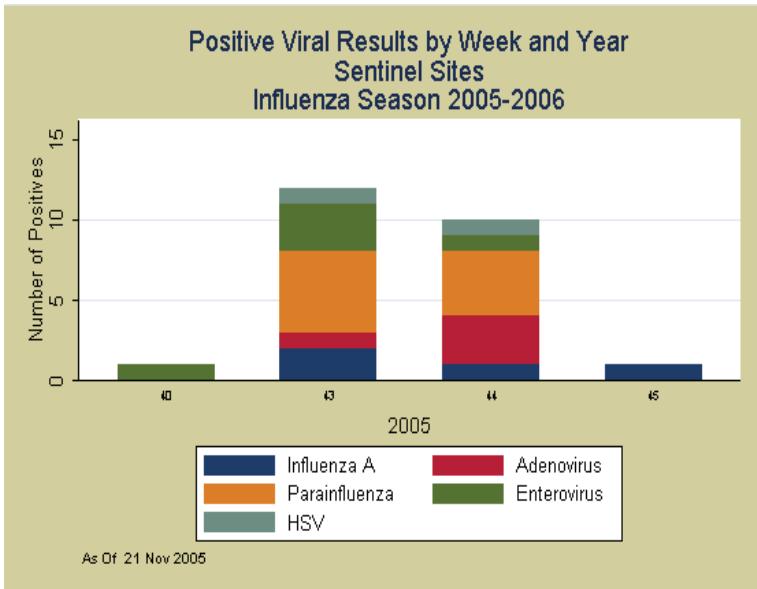
Table 2. Sentinel Site Laboratory Results by MILITARY COMMAND

Result	MILITARY COMMAND								ALL SITES
	CENTCOM		EUCOM		NORTHCOM		PACOM		
	Wk 44	Season	Wk 44	Season	Wk 44	Season	Wk 44	Season	
Influenza A					1	1		2	3
Influenza B									0
Adenovirus			1	2			2	2	4
Parainfluenza			1	5	3	4			9
Enterovirus			1	3				2	5
HSV		1	1	1					2
RSV									0
Negative	1	8	7	15	7	31	10	42	96
Pending	1	1	2	6	5	5	3	5	17
TOTAL RECEIVED	2	10	13	32	16	41	15	53	136

Graph 3.



Graph 4.



Influenza Surveillance Questionnaire

Sentinel sites are requested to complete and submit a surveillance questionnaire from each patient enrolled in this Program. As of 21 November 2005, a total of 109 questionnaires have been submitted online.

Case Definition: 60% (65/109) of questionnaires submitted on patients seen between weeks 40-45 met the case definition.

Of patients meeting the case definition:

Gender: 60% Male, 40% Female

Age (years): 12% less than 5yrs; 8% 5-12 yrs; 11% 12-18yrs; 63% 18-45 yrs; 6% 45+

Influenza Vaccine: 27% Yes; 67% No; 6% Do not know

Active Duty: 60%

Spouse: 11% ; **Child:** 30%

Quarters: Of AD members, 51% (n=22) were put on quarters. At least 32% of those (AD on quarters) were on for 48 or more hours.

Hospitalized: 5% (n=3) of AD were hospitalized.

Overseas Medical Research Laboratory Surveillance

The overseas medical research laboratory surveillance describes all specimens submitted by one of the DoD overseas medical research laboratories and the JTF Bravo sites. Specimens are batched for shipments and therefore we do not receive specimens on a weekly or monthly basis.

Sites submitting specimens for respiratory testing

Week 44. At this time, the AFIOH laboratory has received specimens collected during **Week 44** from one CHPPM-W site (Honduras).

Season submission. Since 02 October 2005, the AFIOH laboratory received specimens from one CHPPM-W site that collected specimens from local residents in Honduras.



Overseas Research Laboratory Results

Week 44 overview. 8 specimens were collected during Week 44 and received at the AFIOH laboratory at the time of this report. 88% (n=7) of the specimens have a completed result. Please view Table 3. and Graphs 5 & 6 below for a visual overview.

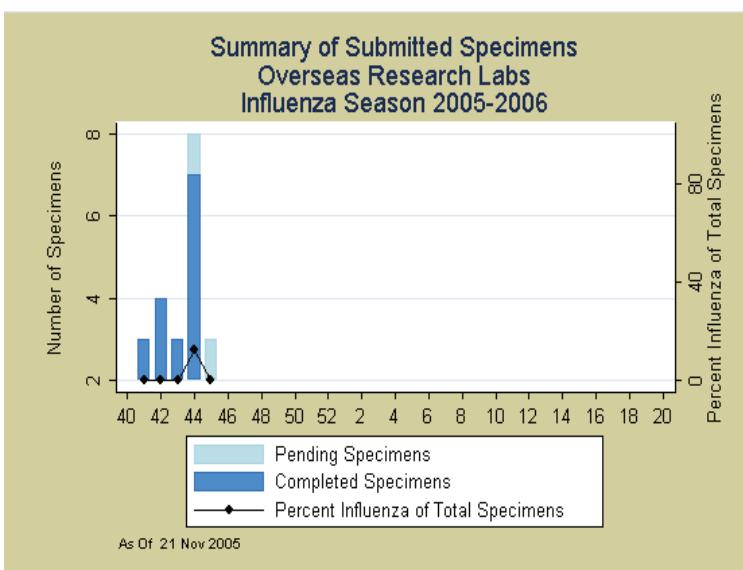
Season overview: Since 02 October 2005, 18 specimens were collected and 94% (n=17) have a completed result. Of those specimens with completed results, 82% (n=14) were negative and 18% (n=3) were positive for a respiratory virus. Of the specimens having completed results, 0% were positive for an influenza virus.

Subtyping: No data to report.

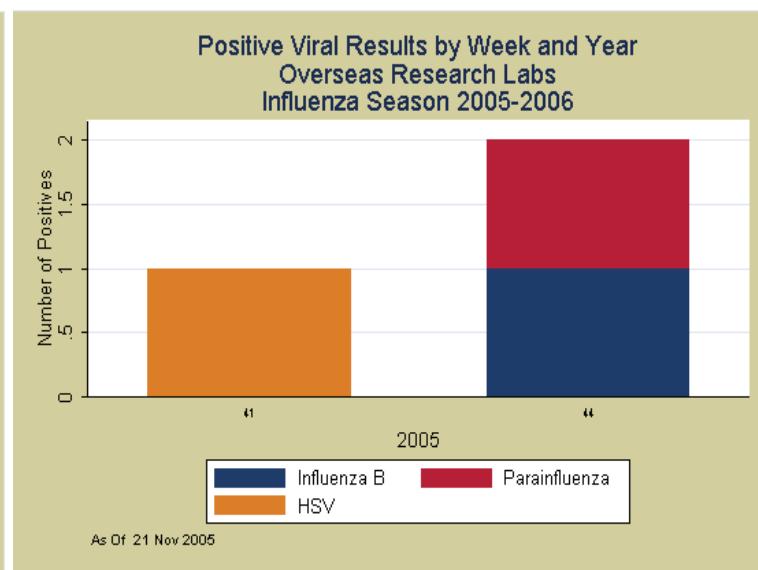
Table 3. Overseas Research Facility Laboratory Results

Result	OVERSEAS MEDICAL RESEARCH FACILITY						
	AFRIMS		NMRC-D		CHPPM-W		ALL SITES
	Wk 44	Season	Wk 44	Season	Wk 44	Season	
Influenza A							0
Influenza B					1	1	1
Adenovirus							0
Parainfluenza					1	1	1
Enterovirus							0
HSV						1	1
RSV							0
Negative					5	14	14
Pending					1	1	1
TOTAL RECEIVED	0	0	0	0	8	18	18

Graph 5.



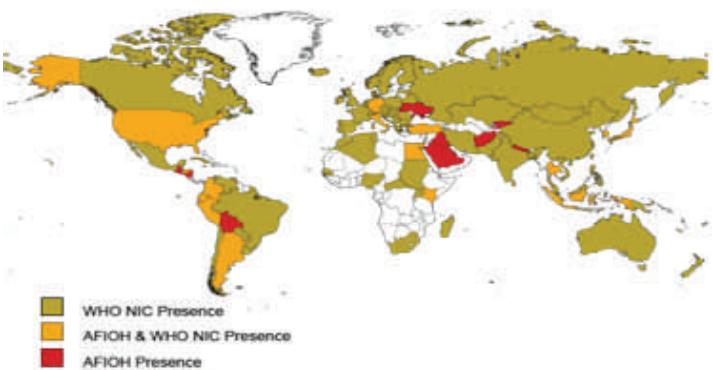
Graph 6.



Contributions to National and Global Influenza Surveillance

The map to the right provides an illustration of how AFIOH data augments the current influenza surveillance network. **It is important to note that although a country is highlighted, surveillance may be limited in scope.** WHO has 113 National Influenza Centers (NIC) located in 87 countries. AFIOH provides influenza surveillance data from 21 countries - 8 countries (Bolivia, El Salvador, Guatemala, Iraq, Kyrgyzstan, Nepal, Nicaragua, and Qatar) are not otherwise included in the current WHO network.

Please note: This map describes the countries submitting specimens to AFIOH and does not include all DoD contributing countries (i.e., NAMRU-2 and NAMRU-3 surveillance described on page 1).



Data Sharing

Each week, AFIOH electronically reports de-identified program data to CDC using the Public Health Laboratory Information System (PHLIS). On 03 November 2005, AFIOH reported respiratory data from **143** (**179 for the 2005-2006 season**) completed specimens to CDC for use in WHO's global influenza surveillance and CDC's United States influenza surveillance.

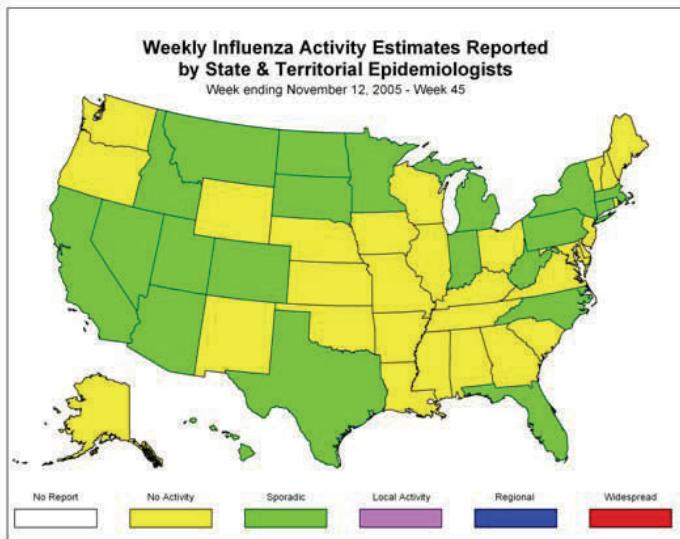
AFIOH also electronically reports aggregate respiratory data gathered from Texas military sites to the Texas Department of State Health Services (TDSHS).

Surveillance findings

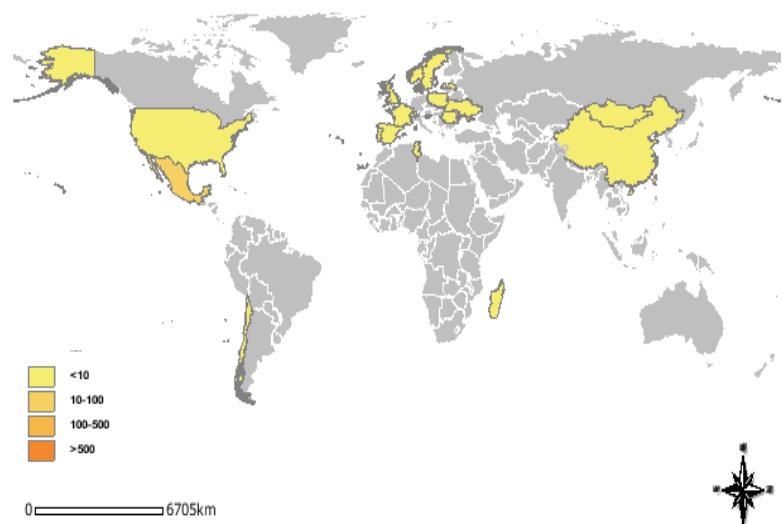
Surveillance findings and maps for CDC and WHO were gathered from the websites listed below on 21 November 2005.

Week 44: CDC reported a low level of influenza activity in the US (0.7% of specimens processed were positive for influenza). 1.5% of patient visits to US sentinel providers were due to ILI (below the national baseline of 2.2%).

CDC U.S. Influenza Surveillance Map¹



WHO International Influenza Surveillance Map²



Detailed WHO and/or CDC Influenza Surveillance Information:

- National Influenza Activity (CDC): <http://www.cdc.gov/ncidod/diseases/flu/weeklychoice.htm>
- International Influenza Activity (WHO): <http://gamapserver.who.int/GlobalAtlas/home.asp>

Additional Influenza Surveillance: Army MEDCENS

The Army performs influenza surveillance at 6 Army Medical Center (MEDCEN) locations (Dwight David Eisenhower Army Medical Center [DDEAMC], Walter Reed Army Medical Center [WRAMC], Brooke Army Medical Center [BAMC], Madigan Army Medical Center [MAMC], Tripler Army Medical Center [TAMC], and Landstuhl Regional Medical Center [LRMC]), two of which are included in AFIOH's sentinel site surveillance network (please see map to right). AFIOH considers both TAMC and LRMC as unique sentinel sites as they submit only positive influenza specimens to AFIOH for further characterization.



The Army MEDCEN sites are major medical centers equipped with the capability of detecting respiratory viruses, including influenza. It is important to note that the methodology varies at each site (i.e., testing procedures include direct fluorescent-antibody [DFA], various rapid antigen tests, culture, and polymerase chain reaction [PCR]) and reporting is routine, but varies from site to site (i.e., weekly, bi-weekly, monthly). The information reported and shared with AFIOH describes results from the individual MEDCENs and does not include demographic information at this time.

Week 44 overview. 40 specimens were collected and tested during Week 44 (23% [n=14] tested by LRMC; 18% (n=11) from BAMC; and 58% [n=35] from EAMC). Seventeen percent (n=10) were positive for a respiratory virus (1 RSV; 2 parainfluenza; 7 adenovirus).

Season overview: Since 02 October 2005, 313 specimens were collected and tested. Eighty-one percent (n=254) were negative and 19% (n=59) was positive for a respiratory virus (1 influenza A; 16 RSV; 8 parainfluenza; and 33 adenovirus). Of the specimens collected and tested, 0.3% were positive for an influenza virus.

Influenza News

Influenza Outbreaks

At this time, AFIOH has received no information of outbreaks occurring at any of the sentinel site locations.

Avian Influenza. From Nov 26, 2003 to Nov 17, 2005 there were 130 cases of avian influenza confirmed by WHO. The case fatality rate is 51.5%. Please see the table below gathered from the WHO website. Reference: http://www.who.int/csr/disease/avian_influenza/country/cases_table_2005_11_17/en/index.html

Table 4. Cumulative Number of Confirmed Human Cases of Avian Influenza A(H5N1) Reported to WHO (as of 17 November 2005)

Date of onset	Indonesia		Viet Nam		Thailand		Cambodia		China		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
26.12.03-10.03.04	0	0	23	16	12	8	0	0	0	0	35	24
19.07.04-08.10.04	0	0	4	4	5	4	0	0	0	0	9	8
16.12.04-to date	11	7	65	22	4	1	4	4	2	1	86	35
Total	11	7	92	42	21	13	4	4	2	1	130	67

Total number of cases includes number of deaths.

WHO reports only laboratory-confirmed cases.

DoD Global Influenza Surveillance Program Background

DoD-GEIS Influenza Surveillance Network

The DoD Global Influenza Surveillance Program was established by the Global Emerging Infections Surveillance and Response System (GEIS) in 1997. It involves a unique network of influenza surveillance efforts from the Air Force (global influenza surveillance established in 1976), the Navy (recruit adenovirus surveillance established in 1996), and the DoD overseas medical research facilities (i.e., the Naval Medical Research Unit located in Cairo, Egypt [NAMRU-2] and the Naval Medical Research Unit located in Jakarta, Indonesia [NAMRU-3]).

AFIOH Influenza Surveillance Network

In 1976, the US Air Force Medical Service began conducting routine lab-based surveillance of influenza throughout the world. Efforts were expanded when it became part of the DoD-GEIS influenza surveillance network in 1997. AFIOH manages the Air Force surveillance program that includes global influenza surveillance among DoD beneficiaries at 39 tri-service sentinel sites (including deployed locations in Iraq, Qatar, and Kyrgyzstan), several non-sentinel sites, two DoD overseas medical research laboratories (the Armed Forces Research Institute of Medical Sciences located in Bangkok, Thailand [AFRIMS], and the U.S. Naval Medical Research Center-Detachment [NMRC-D] located in Lima, Peru) that collect specimens from local residents in Nepal, Thailand, Argentina, Bolivia, Ecuador, Peru, and Colombia, and the US Army Center for Health Promotion and Preventive Medicine-West (CHPPM-W), that collect specimens from local residents in El Salvador, Guatemala, and Honduras.

Processing Methods

Specimens are processed in BSL-2 conditions (BSL-3 available) and tested for influenza, parainfluenza, adenovirus, enterovirus, herpes simplex virus (HSV), and respiratory syncytial virus (RSV). Specimens are held up to 14 days before a negative result is given. All influenza isolates are typed as A or B and a portion are subtyped using hemagglutination-inhibition (HI) or polymerase chain reaction (PCR) procedures. A portion of the these isolates undergo molecular sequencing.

2005-2006 Trivalent Influenza Vaccine Composition

Northern Hemisphere

- A/New Caledonia/20/99-like (H1N1)
- A/California/7/2004-like (H3N2)
- B/Shanghai/361/2002-like

2006 Southern Hemisphere

- A/New Caledonia/20/99-like (H1N1)
- A/California/7/2004-like (H3N2)*
- B/Malaysia/2506/2004

*The currently used vaccine virus is A/New York/55/2004

This report was prepared on **21 November 2005** by Angela Owens. For an expanded view of the information in this report, visit our website at <https://gumbo.brooks.af.mil/pestilence/Influenza/>. Also available on our website is a list of previous weekly surveillance reports, program information for sentinel sites (including an educational briefing and instruction pamphlets for clinic staff), and an overview of historical data.

Please visit the [DoD-GEIS website](#) for an overview of influenza surveillance at all collaborating centers.

AFIOH Contact Information

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